



THE STATE  
of **ALASKA**  
GOVERNOR SEAN PARNELL

**Department of Natural  
Resources**

OFFICE OF THE COMMISSIONER

550 West Seventh Avenue, Suite 1400  
Anchorage, Alaska 99501-3561  
Main: 907.269.8431  
Fax: 907.269.8918

**Department of Law**

OFFICE OF THE ATTORNEY GENERAL

1031 West 4th Avenue, Suite 200  
Anchorage, Alaska 99501-5903  
Main: 907.269-5100  
Fax: 907.269-5110

June 28, 2013

**VIA EMAIL & CERTIFIED MAIL**

Mr. Bob Perciasepe  
Acting Administrator  
USEPA Headquarters  
Ariel Rios Building  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460  
[Perciasepe.bob@epa.gov](mailto:Perciasepe.bob@epa.gov)

Mr. Dennis McLerran  
Regional Administrator  
EPA Region X  
RA 140  
1200 Sixth Avenue  
Seattle, WA 98101  
[McLerran.Dennis@epamail.epa.gov](mailto:McLerran.Dennis@epamail.epa.gov)

Office of Environmental Information (OEI) Docket (Mail Code 28221T)  
Docket # EPA-HQ-ORD-2013-0189  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460  
[Docket\\_ORD@epa.gov](mailto:Docket_ORD@epa.gov)

Re: State of Alaska Comments on EPA's Second External Review Draft of  
"An Assessment of Potential Mining Impacts on Salmon  
Ecosystems of Bristol Bay, Alaska,"  
Docket # EPA-HQ-ORD-2013-0189

Dear Mr. Perciasepe and Mr. McLerran:

The State of Alaska, through the Department of Natural Resources (ADNR) and the  
Department of Law (Law), submits these comments in response to the U.S. Environmental

Protection Agency's (EPA's) second external review draft of "*An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska*" ("revised Assessment"). Please note that these comments do not endorse the Assessment contents, process, or any premature exercise of EPA's Clean Water Act Section 404(c) authority in Bristol Bay watersheds, as the State believes EPA does not have the authority to either conduct the process it is engaged in here or to issue a preemptive veto.

EPA publicly noticed the revised Assessment in the Federal Register on April 30, 2013, setting an extremely short, 30-day public review and comment deadline of May 31, 2013. Underscoring the rushed nature of the review period, EPA included little public outreach and no public meetings in Alaska. On May 23, 2013, the State requested a 90-day extension of time on the public comment period. While EPA has since extended the public comment period for 30 days, additional time for public review and comment on this lengthy document is warranted.<sup>1</sup> The public should also be given another review and comment opportunity after the peer review panel publishes its comments on this second draft.

As you know, the State previously commented several times regarding issues and concerns relating to EPA's development of this Assessment in response to a petition requesting EPA to exercise its 404(c) veto authority over potential mining activities in a vast area consisting largely of state-owned lands.<sup>2</sup> While EPA has responded to some of the State's criticisms of the first draft, EPA has failed to respond to a majority of the State's concerns. Significant legal, process, and technical flaws remain.

We are troubled by the lack of an explanation from EPA as to the authority it relies upon for conducting the Assessment, and question of how the Assessment may be used to facilitate a future Section 404(c) or other regulatory decisions.<sup>3</sup> The Assessment and any conclusions

---

<sup>1</sup> When Alaska submitted its extension request, the State discovered that EPA has provided two email addresses for submitting comments, one of which is apparently incorrect. On EPA's April 2013 Fact Sheet website for the "Bristol Bay Assessment," for submitting public comments, EPA lists [ORD.Docket@epa.gov](mailto:ORD.Docket@epa.gov), but this is apparently not a working address. See [http://www2.epa.gov/sites/production/files/documents/bristolbay\\_factsheet\\_april2013.pdf](http://www2.epa.gov/sites/production/files/documents/bristolbay_factsheet_april2013.pdf) In the Federal Register notice published on April 30, 2013, EPA lists [Docket\\_ORD@epa.gov](mailto:Docket_ORD@epa.gov) as its address for submitting public comments. EPA should clarify the correct address, and in doing so, extend the public comment period for another 60 days.

<sup>2</sup> The area targeted by EPA in the Assessment is roughly the size of West Virginia. See Assessment map at ES-3.

<sup>3</sup> Indeed, on its website for the revised Assessment, EPA states that it "will not address use of its regulatory authority until the assessment becomes final," further underscoring the lack of transparency in this process. And while EPA states that it "launched this assessment to determine the significance of Bristol Bay's ecological resources and evaluate the impacts of large-scale mining on these resources," ES-1, EPA actually began this ultra vires process in response to a petition for 404(c) action. EPA off-handedly acknowledges this, and at the same time candidly states that "[i]t is expected that the assessment will ***provide an important base of information***" for EPA to decide the petition. See Assessment at 1-15 (emphasis added).

reached in it will bias future environmental reviews of mining projects in the region, including that of the Pebble project. In addition, the hasty process for the revised Assessment compounds the uncertainties and speculation set forth in the first draft.

### ***Legal and Process Issues***

The State actively protects the water, fish and wildlife, subsistence uses, and natural beauty within Alaska. At the same time, in accordance with constitutional mandate and other statutory obligations and prerogatives, the State also manages its lands, waters, and resources for the maximum benefit of its citizens.<sup>4</sup> These authorities are consistent with the management rights and authorities that Congress reserved to the states under, *inter alia*, the federal Clean Water Act (CWA).<sup>5</sup> Thus, the State manages and implements its authorities in a balanced and reasoned manner, to provide protection for waters, wetlands, habitat and wildlife within our borders, while providing economic and employment opportunities for residents, opportunities that necessarily depend upon responsible resource development, such as mining projects.<sup>6</sup> However, in the absence of any regulatory or statutory authority to support it, EPA's unilateral decision to prepare an Assessment in vetting a petition for 404(c) action for a specific project in a specific region of Alaska, thwarts and marginalizes these important State rights and responsibilities.

EPA has variably cited Section 404(c) as its authority to conduct the process for this Assessment.<sup>7</sup> As you know, the formally promulgated regulations for EPA's exercise of its Section 404(c) actions do not include either development or peer review of an assessment as a path forward to responding to a petition. Indeed, there are no regulations that provide for a

---

<sup>4</sup> Alaska Const., art. VIII, sections 1 and 2.

<sup>5</sup> Congress expressly stated in the CWA that "[i]t is the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of the States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the Administrator in the exercise of his authority under this chapter." 33 U.S.C. § 1251(b).

<sup>6</sup> The federal government, including EPA, has long been aware that one of the reasons the State selected the lands in the Pebble project area as part of statehood selections – secured over the course of many years through state-federal collaboration – is because of their promising mineral potential, and, in turn, the potential to provide, through development, socio-economic benefits to the State and its residents. Notwithstanding Congress' expectation and encouragement that the State select lands containing natural resources that could provide economic opportunities, EPA openly admits that it does not discuss these benefits in the Assessment. *See* ES-9.

<sup>7</sup> *See, e.g.*, February 24, 2012 Federal Register Notice requesting nominations of individuals for an external peer review panel to review the Assessment. <http://www.gpo.gov/fdsys/pkg/FR-2012-02-24/html/2012-4325.htm>)

Section 404(c) petition process. In apparent recognition of this absence of legal authority, EPA often alternatively cites as its authority CWA Section 104, which deals with *the cooperative development of national programs*.<sup>8</sup> However, as with Section 404(c), no formal regulations have been promulgated for Section 104 that contemplate the development of an assessment as a means to respond to – as is clearly contemplated here – a petition asking for a geographically specific 404(c) veto involving a specific activity (mining).<sup>9</sup>

In essence, EPA has created an assessment process without formal rulemaking under the Administrative Procedure Act, including the opportunity for public review and comment. The decision to do an assessment and create this new process is clearly regulatory action,<sup>10</sup> and creates dangerous precedent that threatens to unlawfully shut out completely the application of important State land and water management rights and responsibilities, as well as the application of other relevant federal authorities.

The State has repeatedly expressed concerns regarding the lack of authority for the process EPA is engaging in with this Assessment.<sup>11</sup> Among the issues we have raised:

- the Assessment is premature;
- EPA lacks authority for the Assessment;

---

<sup>8</sup> 33 U.S.C. § 1254.

<sup>9</sup> EPA's efforts to create a new process are reflected in EPA's correspondence and other written material. For example, in an email dated October 25, 2010 from EPA's Dennis McLerran to EPA's Bob Sussman and Bob Perciasepe, and copied to Richard Parkin, Mr. McLerran references a study being conducted by the Keystone Center under a contract with Pebble Limited Partnership. In the email, Mr. McLerran states he would find out more about the Keystone study, "but it looks like it would operate in parallel *with any process we might establish* for developing public input on the 404(c) petitions." (Emphasis added)). Cf., written remarks prepared for a February 2, 2012 presentation by Dennis McLerran at the 2012 Alaska Forum on the Environment, in which he states that "I announced last year that we were beginning an assessment of the Bristol Bay watershed *as an initial step toward responding to requests the EPA received* to prevent the Pebble Mine from being built." (Emphasis added.)

<sup>10</sup> EPA acknowledged its decision in several letters and press statements, at the same time it acknowledged it was still formulating a process to carry out the Assessment. For example, in a letter dated Feb 7, 2011, to Colonel Reinhard Koenig with the U.S. Army Corps of Engineers, EPA's Dennis McLerran stated that "I have *decided* to initiate a watershed assessment... *I am writing to inform you of that decision* and request your assistance.... *There are many details to be worked out*...." (Emphases added.)

<sup>11</sup> These include letters submitted by the State to EPA on September 21, 2010, August 8, 2011, March 9, 2012, April 17, 2012, May 29, 2012, and July 23, 2012, which are included again with this submittal for ease of reference and address legal, process and technical issues with the Assessment.

- EPA's process conflicts with state and federal law;
- EPA appears to rely upon past assessments and draft and/or final guidance that do not have binding legal effect, nor are they tied in any way through formal rulemaking to CWA Section 104;<sup>12</sup>
- the process EPA has engaged in lacks scientific credibility, including use of a hypothetical project (via three scenarios) to speculate on potential impacts from mining on Bristol Bay watersheds;
- EPA's process disregards federal and state laws, processes, and permits, the Statehood Compact, as well as the Alaska Constitution;
- EPA has rushed this process;
- EPA expressly chose to disregard potential social and economic benefits of mining;
- EPA's Assessment process is an unlawful expansion of its authority under the CWA, its 1992 Memorandum of Agreement with the U.S. Army Corps of Engineers, and the Administrative Procedure Act;
- conclusions reached in the Assessment constitute final agency action because they mark the consummation of agency action on specific issues and impacts, these conclusions are not subject to appeal, and these conclusions will have essentially binding effect on third party and state interest and future regulatory reviews;<sup>13</sup> and

---

<sup>12</sup> For example, EPA attempts to justify the Assessment process by citing a number of "watershed" and/or "ecological risk assessments" EPA previously prepared, as well as a 1998 guidance document referred to as "guidelines for ecological risk assessments." See 1-2 through 2-1 of the Assessment and USEPA, 1998. *Guidelines for Ecological Risk Assessment*. EPA/630/R-95/002F. However, none of those watershed or ecological risk assessments cites CWA Section 104 for authority, and the 1998 guidance EPA relies upon does not cite the Clean Water Act at all for authority, much less that the guidance was contemplated to be used by EPA in conducting research for national programs under CWA Section 104.

<sup>13</sup> The Assessment is replete with findings, consequences, and conclusions. For example,

- EPA states, at ES-10, that "***Findings*** of this assessment concerning the impacts of large-scale mining ***are generally applicable***" to other mineral prospects in the area.
- At the very outset of the Assessment, in the Abstract at page i, EPA states, based on the mine scenarios formulated at the Pebble project area, that "***we conclude that mining would, at a minimum***, cause the loss of spawning and rearing habitat for multiple salmonids....the direct loss of 28, 90 and 145 km of streams, and 5.0, 12.4 and 19.4 km<sup>2</sup> of wetlands, respectively. Water withdrawals for mine operations would significantly diminish habitat quality in an additional 15, 26 and 54 km of streams...."
- EPA writes, at ES-22, that "tailings dam failures evaluated in the assessment ***would be expected to have the following severe direct and indirect effects*** on aquatic resources, particularly salmonids...."
- EPA asserts, at 1-5, that "[t]his assessment, ***particularly its identification and analysis of the direct, indirect, and cumulative effects of large-scale mining, will be a valuable resource*** in the development and review of any environmental impact statement for mines proposed in the watershed."

- EPA's Assessment violates the Data Quality Act by relying on, for example, non-peer reviewed literature and data.<sup>14</sup>

To date, EPA has failed to adequately respond to any of the State's legal and process concerns, and these concerns remain relevant to the revised Assessment. We continue to believe the Assessment is inconsistent with law, and question its scientific integrity.<sup>15</sup>

### *Technical and Scientific Issues*

In its July 23, 2012 cover letter addressing technical deficiencies with and questions about the first draft of the Assessment, the State summarized 88 pages of attached technical comments on the key issues again outlined below. Other comments to EPA, including those of the external peer review panel, expressed many of these same concerns. While EPA addressed some of these in the revised Assessment, the changes were minor reorganizations of information or better acknowledgment of the limitations of the data used and conclusions. However, the revised Assessment still does not meet the technical and scientific standards for potential use as a decision document.

The key points from the State's previous technical comments on the first draft of the Assessment were, and continue to be:

- 1) The Assessment draws speculative conclusions about potential impacts from a hypothetical mine.

---

(Emphases added.) The EPA states throughout the Assessment additional findings, consequences, and conclusions it has reached regarding the effects of mining in the area, all of which are essentially "final agency action," all of which EPA states is available to inform future decision making (1-15), including its decision on a petition for 404(c) veto, but all of which EPA has averred cannot be challenged based on the issuance alone of the final Assessment.

<sup>14</sup> This is confirmed by the rushed peer review that EPA arranged for a handful of the studies it relies upon, but only after it had published the first draft of its Assessment. In any event, much of the data and information EPA relies upon still has not been peer reviewed, including new data and information that EPA has introduced through the revised Assessment.

<sup>15</sup> Stretching its legal authority under the federal statutes is becoming a pattern of EPA actions that the State of Alaska has significant concerns with. In addition to claiming dubious legal authorities under the Clean Water Act as discussed in this letter, the EPA from the State of Alaska's view is doing something similar under the Clean Air Act. The State of Alaska, in conjunction with the U.S. Chamber of Commerce and the American Farm Bureau Federation has recently filed a *petition for a writ of certiorari* with the U.S. Supreme Court, the main focus of which is to challenge the EPA's expansive reach of authority under the Clean Air Act. (See *Chamber of Commerce, et al. v. Environmental Protection Agency, et al., petition for cert. filed*, \_\_\_ U.S.L.W. \_\_\_\_ (U.S. Apr. 19, 2013 (No. 12-1272)).

The State, in previous letters and official comments to EPA, has questioned the applicability of the Assessment process in the absence of a detailed project proposal and CWA Section 404 permit application. The revised Assessment, while discussing potential mining development in the Bristol Bay area, has focused on the proposed Pebble project with three scenarios of mining projects of increasing extent and duration. In the first draft Assessment, a 25-year minimum and a 78-year maximum life mine plan were evaluated. The revised draft evaluates these three scenarios:

- a) Pebble 0.25 (approximately .25 billion metric tons of ore processed over 20 years duration, with a loss of 24 miles of streams and 1,200 acres of wetlands;
- b) Pebble 2.0 (approximately 1.8 billion metric tons of ore processed over 25 years with a loss of 56 miles of streams and 3,000 acres of wetlands); and
- c) Pebble 6.5 (approximately 6.5 billion metric tons of ore processed over 78 years with a loss of 90 miles of streams and 4,800 acres of wetlands).

In the revised Assessment, EPA considers the impacts of the mine footprint(s) themselves as well as the likelihood of accidents or failure. Downstream fish habitat degradation is predicted to occur due to reduced food resources, changing water volumes, and changing water temperatures. The revised Assessment evaluates risks of toxic leakage, wastewater treatment plant failure, culvert failures, truck accidents, tailings dam failure, pipeline failures, floods, earthquakes, and cumulative risks associated with more widespread development in the area. The revised Assessment also discusses the additional potential impacts from climate change.<sup>16</sup> EPA is still grappling with how to incorporate climate change into the NEPA process, much less in a speculative ecological risk assessment.<sup>17</sup>

These mine scenarios are largely based on the 2011 Preliminary Assessment document prepared for Northern Dynasty Minerals Ltd. by WARDROP, a consulting firm in Vancouver, British Columbia, and referenced in the revised Assessment as *Ghaffari et al, 2011*. Northern Dynasty has a 50% interest in the Pebble Limited Partnership (PLP) with Anglo-American plc (Anglo American). This document was prepared as part of corporate due diligence conforming to the standards of the National Instrument 43-101 (NI 43-101), which is a national disclosure instrument within Canada. The NI 43-101 is a codified set of rules and guidelines for reporting and displaying information related to mineral properties owned by, or explored by, companies which report these results on stock exchanges within Canada.

Northern Dynasty filed the NI 43-101 as part of disclosure to potential investors and it is intended to be an economic analysis, not a comprehensive environmental planning document. It represents the view of only one of the two PLP partners at that time. It is not a mine plan and would not be a principal support document for state agencies to review for any proposed Pebble

---

<sup>16</sup> Section 3.8 and Box 3-4 at page 3-38.

<sup>17</sup> See *Draft NEPA Guidance on consideration of the effects of climate change and greenhouse emissions*, Council on Environmental Quality memorandum dated February 18, 2010.

mine. The documents upon which the state agencies would base permitting decisions is the actual mine proposal, supporting documents and baseline information, a Clean Water Act Section 404 permit application, the environmental impact statement (EIS), developed by a federal lead agency under the guidelines of the National Environmental Policy Act (NEPA), and any other associated permit applications. The use of an investor document as EPA's principal technical description of proposed mining on the Pebble claims is scientifically and technically unjustifiable.

Like the NI 43-101 filing, the EPA Assessment is now a document that will be used for further speculative analyses of mining in the Bristol Bay region. The revised Assessment compounds and overstates the risks from additional mining projects in the area. The original Assessment listed four potential mining projects in the Bristol Bay drainages and the revised Assessment lists six: Pebble South/PEB, Big Chunk South, Big Chunk North, Groundhog, AUDN/Iliamna and Humble. However, none of these projects have progressed beyond preliminary exploration and experience indicates that few exploration projects progress to development. Yet, the revised Assessment has estimated individual impacts from the development from these six prospects, totaled those impacts, and presented that total as a reasonably foreseeable event. This approach is statistically indefensible and does not constitute a reasonable consideration or analysis of potential cumulative effects.

In its previous technical comments on the first draft of the Assessment, the state expressed concerns about overstating the risks from other mining projects in the larger Bristol Bay drainages:

The document states that other deposits in the region would present risks similar to those outlined in the assessment. It is presumptuous for the EPA to assume other deposits in the area would have similar risks as Pebble. Later in the document, a comparison of the chosen scenario for Pebble, would make it the largest mine in North America. As hypothetical and unlikely as that assumption is, it is even more unlikely that other deposits in the region would be of the same scale and present similar risks. The document does state elsewhere that the other deposits are not likely to be as large as Pebble but it is contradictory to state that they would have "similar impacts" in the executive summary. (With reference to page ES-5 in the first draft of the Assessment).

Any qualified or quantified risk associated with developing any other deposit outside of the Pebble project area should be removed from future drafts of the document. These projects at present consist of mineral claims with minimal exploration activity. Unlike the Pebble deposit, there are no site-specific environmental baseline data on these projects. Any future drafts of this Assessment should make no assumptions about or characterize risks from these mining claims. Limited information on these projects is available and any long-term risk from any of them would be addressed in future NEPA and permitting review.

- 2) Insufficient technical and scientific support for conclusions based on groundwater/surface water interconnections in the study area.



A major criticism of the first draft Assessment was the lack of surface and groundwater data to support how the mine would impair salmon habitat because of close connections of groundwater and surface water sources. An extensive amount of hydrological and water quality data collected for NEPA and permit application purposes by PLP was not considered in the first draft even though it was available.<sup>18</sup>

The revised Assessment includes more data from the PLP Environmental Baseline Document (EBD), but EPA only used the PLP data in the absence of other data.<sup>19</sup> EPA acknowledges that the “potentially largest source of uncertainty in [water balance] calculations is the net balance of water from groundwater sources.”<sup>20</sup> The modeling described in Box 6-2 of the Assessment (page 6-25), Mine Pit Drawdown Calculations,” is inadequate to determine the impact of drawdown at a mine pit for the purpose of a risk analysis. Furthermore, the revised Assessment uses temperature data collected by PLP to support conclusions that stream temperatures are moderated by cooler groundwater inflow,<sup>21</sup> and inappropriately assesses regional environmental risk and impact through inference of a site-specific model of pit drawdown.

3) Inadequate consideration of mitigation measures.

The first draft Assessment did not incorporate the effects of permit stipulations and mitigation on the overall impact and risks. Permit stipulations and mitigation through the permitting process would be an integral part of any large development project in the region. Without considering the robustness and completeness of the state and federal permitting processes, the Assessment has mischaracterized the potential impacts and their significance.

The revised Assessment has improved the discussion of mitigation and the role of permitting in mitigation.<sup>22</sup> However, the revised Assessment does not adequately describe the measures that the State and federal permitting agencies would require before a mine could be developed in the Bristol Bay area nor the mitigation effect of these measures in the evaluation of environmental risk and impact.

4) Data presented is not representative, complete, or current.

The revised Assessment has included new information, some of which was identified during the public comment and external peer review panel comments. While EPA has stated that

---

<sup>18</sup> See PLP, 2011 *Environmental Baseline Document 2004 through 2008*.

<sup>19</sup> See Section 2.1.1 at 2-3.

<sup>20</sup> See Assessment at 6.1.2.5 at 6-12.

<sup>21</sup> See Assessment at 3.5.2

<sup>22</sup> Section 4.2.3 and Boxes 4-1, 4-2 and 4.3 and Appendix J, Compensatory Mitigation and Large-Scale Hardrock Mining in the Bristol Bay Watershed, pp.23.

its “[o]bjective is to ensure that we are using the best available science,”<sup>23</sup> many of the documents and data that the revised Assessment relies upon have not been vetted through rigorous technical and scientific peer review. Several of the documents cited in the revised Assessment are produced by entities or individuals who are publicly opposed to mining activities, including those that might occur in the area studied in the Assessment.<sup>24</sup>

5) Incomplete and selective discussions of socio-economic impacts and potential benefits of mining.

EPA has made numerous public remarks about how it would deal with the petitions, as well as the concerns raised by many individuals and organizations regarding in response to the petitions. For example, in his written remarks prepared for his presentation on February 9, 2011 at the Alaska Forum on the Environment, Region X Administrator Dennis McLerran discussed the agency's decision to conduct an assessment. Administrator McLerran stated that “[w]e recognize that Alaska is a state rich in minerals, oil, and gas, and that resource extraction is a dominant feature of the State's economy and the livelihood of tens of thousands of Alaskans.” Later he stated that “we do not do our work in a vacuum. We recognize the mineral resources of Alaska are important to jobs and economic stability here and to industry around the world.” Notwithstanding these statements, neither the first or revised drafts of the Assessment address the socio-economic benefits from mining in the Bristol Bay region.

The revised Assessment, at page ES-9, acknowledges that “the economic effects of mining are not assessed.” The State's previous comments on the first draft Assessment provided information on current exploration expenditures and potential future economic benefit of mining activity.<sup>25</sup> The State reiterates those comments to emphasize that economic benefits have derived from and likely would be derived from the Pebble project:

Given that it is reported in the assessment that revenues from the Pebble mine have been estimated at between \$300 billion and \$500 billion over the life of the mine, it is feasible to include additional economics regarding the impacts this type of development has already had in the region. The Alaska Mineral Industry Report includes the amount of money reportedly spent annually by the Pebble Limited Partnership (PLP) on the Pebble project for 2006 –2010. (Information regarding the exploration began to be reported starting in the report for 2001, reporting for 2004 included the expenditures related to a contract awarded to an Alaskan company, and the 2005 report notes the amount spent on environmental studies and community outreach.)

---

<sup>23</sup> EPA April 2013 Factsheet website,  
[http://www2.epa.gov/sites/production/files/documents/bristolbay\\_factsheet\\_april2013.pdf](http://www2.epa.gov/sites/production/files/documents/bristolbay_factsheet_april2013.pdf)

<sup>24</sup> See May 23, 2013 letter from John Shively, Pebble Limited Partnership, to EPA Acting Administrator Bob Perciasepe and EPA Regional Administrator Dennis McLerran.

<sup>25</sup> See, e.g., page 14 of the State's technical comments dated July 23, 2012.

The following information should be included in quantifying the ongoing financial, economic and other contributions made through the project in your economic assessment as you have done for the fishing industry. It should be noted that the money spent by PLP for 2009 and 2010 is not a 1:1 ratio of what will be spent annually throughout the life of the mine. That detail has not been clarified in the economics presented for the fishery.

In 2010, "The Pebble copper-gold-molybdenum project remained the largest exploration project in Alaska. Northern Dynasty Minerals Ltd. reported that the Pebble Partnership spent \$73 million on the Pebble project in 2010, with \$21 million spent on engineering studies, \$28 million on drilling, and \$24 million on environmental and socioeconomic studies." (Szumigala, 2011)

In 2009, "The Pebble copper-gold-molybdenum project remained the largest exploration project in Alaska, with an announced 2009 budget of \$70 million. The budget, approximately 50 percent of the project's 2008 budget, included \$20 million for drilling, \$14 million for environmental studies, and \$36 million for engineering, cultural, community outreach, and other prefeasibility studies. Approximately \$452 million has been spent on exploration at the Pebble project by Northern Dynasty Minerals Ltd., Anglo American Exploration (USA) Inc., and Pebble Limited Partnership from 2000 through 2009." (Szumigala, 2010)

Additionally, the Alaska Department of Labor and Workforce Development reported that nearly three-quarters of all wage and salary earnings from mining stay within the state due to Alaska residents making up about three quarters of all workers in the mining industry in their October 2010 issue of Alaska Economic Trends.

Source: Szumigala, D.J., Harbo, L.A., and Adleman, J.N., 2011, Alaska's mineral industry 2010, 83 p., p. 29.

Szumigala, D.J., Harbo, L.A., and Hughes, R.A., 2010, Alaska's mineral industry 2009, 81 p. p. 18

Shanks, A., Abrahamson, M. and L. Baron. Alaska's Mining Industry in *Alaska Economic Trends October 2010*. State of Alaska Department of Labor and Workforce Development, Research and Analysis Section.. pp. 4-11. p. 6.

The revised Assessment, at page ES-1, expands on the economic benefits derived from fish resources, but not from the mineral resources in the study area, even though "the purpose of the assessment is to characterize the biological and mineral resources of the Bristol Bay watershed." The revised Assessment, at page ES-9, briefly mentions that "some" Alaska Native villages have decided that large-scale hard rock mining is not the direction they would like to go, while "a few" are seriously considering the opportunity." While the State objects to the

Assessment and process undertaken here, the selective inclusion of economic benefits in Bristol Bay derived from salmon, but not from mining, gives the impression of bias.<sup>26</sup>

The revised Assessment makes ample reference to the 2011 Northern Dynasty document for the hypothetical mine scenario at a developed Pebble mine (cited as *Ghaffari et al, 2011*). However, there is also ample economic information in that same document that is not presented in the revised Assessment. The State is aware that the Pebble Limited Partnership has released a third-party economic review that updates the mine's potential economic impact (IHA Global Insight, *The Economic and Employment Contributions of a Conceptual Pebble Mine to the Alaska and United States Economies*, 2013).

Without projecting any specific benefit from a future Pebble mine, the State can cite the examples of current mines that are the primary economic drivers in their areas. The Red Dog mine in Western Alaska, for example, provides the sole tax revenues for the Northwest Arctic Borough. The majority of Red Dog mine employees are Alaskans and local Native corporation shareholders. In contrast, commercial fishing for sockeye salmon in Bristol Bay benefits many non-Alaskans. Information from the State's comments on the first draft of the Assessment highlighted this disparity:

There's no effort made to quantify how many of the workers and how much of earnings are made by non-residents. According to Alaska Department of Labor and Workforce Development Research and Analysis Bristol Bay Region Fishing and Seafood Industry Data in 2009, 58.8% of total gross earnings [were] earned by non-resident permit holders and 87.1% of wages were earned by non-residents. The characterization of the Bristol Bay Commercial Fishery is incomplete without a reflection of the profits gained from Alaska's fisheries resources by non-residents and how much of the gross earnings leave the state, is not spent in Alaska, or in the Bristol Bay region.

Similar data presented for the general public is also published the November 2009 issue of Alaska Economic Trends published by the Alaska Department of Labor and Workforce Development, including that in 2008:

- 46% of Alaska's crew members lived outside the state
- 73% of seafood processing employees lived outside the state and they earned \$187 million that year
- Seafood processing since at least the mid-1980s has been the sector with the highest percentage of nonresidents, both within the fishing industry and in all wage and salary employment in the state.

Citation: Warren, J. and Hadland, J. Employment in Alaska's Seafood Industry in *Alaska Economic Trends November 2009*. State of Alaska Department of Labor and Workforce Development, Research and Analysis Section. pp. 4-10. p. 6-7 and Exhibit 7.

---

<sup>26</sup> See Assessment, Appendix E, Bristol Bay Wild Salmon Ecosystem: Baseline Levels of Economic Activity and Values, pp 225.

Alaska Department of Labor and Workforce Development Research and Analysis.  
Fishing and Seafood Industry in Alaska Current Data. Fishing and Seafood industry in  
Alaska Overall Seafood Industry Data Tables. Fish Harvesting and Processing Workers  
and Wages. Bristol Bay Region Seafood Industry, 2003-2009.

6) Unclear risk assessment methodology used.

EPA stated that the revised Assessment is based on “well-established methodology of an ecological risk assessment” on the first page of the Executive Summary and emphasized the reliance on EPA’s 1998 Ecological Risk Assessment guidance.

The three endpoints for the Assessment are listed as:

- the abundance, productivity, or diversity of the region’s Pacific salmon and other fish populations;
- the abundance, productivity, or diversity of the region’s wildlife populations; and
- the viability of Alaska Native cultures.

EPA’s 1998 guidance describes ecological endpoints and defines them based on ecological relevance, as well as susceptibility and relevance to management goals. Levels of ecological organization are described (individuals, populations, communities, ecosystems, landscapes) and multiple ecosystem processes.<sup>27</sup>

While obviously important, the endpoint for viability of Native culture does not appear to conform to the environmental and ecosystem endpoints described in the 1998 guidance. EPA may well be addressing the fact that local communities requested the Assessment, prompting the only new field research that informed the Assessment.<sup>28</sup> However, a societal component to an ecological assessment seems unrelated to the accepted methodologies of risk assessment. Other methodologies have been developed since 1998 to assess the impacts of large development projects on residents, health, culture and reliance on subsistence foods such as Health Impact Assessments (HIAs). HIAs have been done or are in progress for large projects in Alaska and the information from them can be used to inform NEPA reviews.<sup>29</sup>

---

<sup>27</sup> See USEPA, 1998. *Guidelines for Ecological Risk Assessment*. EPA/630/R-95/002F. April, Washington, DC; Environmental Protection Agency, Office of Research and Development, at Section 3.3, Selecting Assessment Endpoints page 28.

<sup>28</sup> Assessment, Appendix D: Traditional Ecological Knowledge and Characterizations of the Indigenous Cultures of the Nushagak and Kvichak Watersheds, Alaska.

<sup>29</sup> See State of Alaska HIA website, <http://www.epi.alaska.gov/hia/>

The first draft of the Assessment described the endpoint as “Alaskan Native cultures [human welfare as affected by fisheries]” at page 3-2. The revised Assessment broadens the endpoint and describes it as “viability of Alaska Native cultures.” While the state acknowledges the importance of salmon and fishing to Alaska Natives in the Bristol Bay area, there are many other pressures on Native culture in Alaska that are not attributable to mining or any other economic activity or infrastructure development. In fact, the lack of economic opportunity is a primary cause of population loss in some villages as new generations of Alaskans are seeking opportunities elsewhere.

For the other identified endpoints, the revised Assessment takes the additional data from PLP and other sources to populate multiple models that are then used to calculate impacts and assign risk. EPA, at page ES-28, discusses the uncertainties and limitations in a summary:

- lack of quantitative information concerning salmonid populations in freshwater habitats; “Estimated effects of mining on fish habitat thus become the *surrogate* for estimated effects on fish populations” (emphasis added);
- the standard leaching tests on tailings and waste rock material from the Pebble deposit are “uncertain predictors of the actual composition of leachates;”
- capture efficiencies for leachates are uncertain;
- the effects of tailings and concentrates [assumed from unintentional spillage?] deposited in spawning and rearing habitat are uncertain;
- probability of tailings dam failure is uncertain; historical experience is presumed to provide an upper bound; and
- the proportion of tailings spilled during a dam failure could be larger than the largest value modeled and the long-term fate of spilled tailings could not be quantified.

EPA outlined these specific uncertainties. However, the revised Assessment does not clarify the compounded uncertainty in the way data and model inputs are used. It does not clearly summarize data gaps. Section 2.1.2, at 2-4, states:

After these analyses and lines of evidence are presented, we characterize risk for each line of evidence by combining exposures and exposure-response relationships to estimate effects, and by considering uncertainties.

While EPA acknowledges the uncertainties, there is no way to interpret how they affect the conclusions. Given that the entire Bristol Bay area has not been extensively monitored or mapped, the base information on which to build models is speculative. Attributes for over 65,000 stream and river reaches in the Nushagak and Kvichak River watersheds were estimated from a USGS database, including such fundamental attributes as flow, gradients, and extent of lowlands which in turn are the basis for fish habitat suitability.<sup>30</sup> It appears that EPA has modified

---

<sup>30</sup> Assessment, Section 3.4.1, at 3-18; Box 3-1, at page 3-20; Box 3-2 at page 3-25; and Box 3-3 at page 3-27.

standard methods of determining some key physiographic and hydrologic attributes based on the limitations of the data and then proceeds to use the information to determine habitat suitability. Habitat suitability is a surrogate for populations of salmon since EPA acknowledges the limitations of population data.

7) Inconsistent scale and scope of project area.

The criticisms the State had about “scope” and “scale” with the first Assessment have been partially addressed by reorganization of the executive summary and adding a new section on five spatial scales in the revised Assessment.<sup>31</sup> The five scales are identified as: 1) Bristol Bay watershed, 2) Nushagak and Kvichak River watersheds, 3) the mine scenario watersheds, 4) the mine scenario footprints and 5) the transportation corridor. However, examining an entire ecosystem over an area as large as West Virginia and predicting impacts is still unprecedented for a document informing a CWA Section 404 action, despite the clarifications regarding scale.

8) Non-scientific presentation of the Assessment

The revised Assessment still suffers from attempts to persuade the reader, using pre-regulatory, historic information on mines world-wide, to present worst-case information. Further, the McGrath-area Nixon Fork mine overtopping event, described in Box 8-1, at page 8-20, is still being presented as an example of tailings water release associated with a dam failure, when the cause was due to operation and maintenance error. The revised Assessment does not mention that the issue was immediately addressed by mine personnel, inspected by state and federal regulators, and that no demonstrable damage to surface waters or other receiving environments has resulted.

***Intergovernmental Technical Team & Use of State of Alaska Data***

The revised Assessment does not accurately represent the meetings and input for the Intergovernmental Technical Team (IGTT). EPA states, at 1-4 of the revised Assessment, the following:

Throughout the assessment, we have reached out to interested parties to ensure transparency of the assessment process (Box 1-1). Through public comment opportunities and by engaging an Intergovernmental Technical Team (IGTT) of federal, state and tribal representatives, we were able to identify additional information helpful for characterizing the biological and mineral resources of the watershed. These interactions with members of the community were also helpful in narrowing the scope of the assessment to what was most important to stakeholders.

The IGTT interactions, at least with the State participants, were few. On August 9-10, 2011, State staff from ADNRR, the Alaska Department of Environmental Conservation (ADEC), the Alaska Department of Fish and Game (ADF&G), and the Department of Health and Social

---

<sup>31</sup> See ES-2 and 2.2.2.

Services attended an IGTT meeting in Anchorage at EPA's invitation. However, EPA denied the State full participation through the IGTT.

First, as part of the State's representation on the IGTT, the State had proposed sending an attorney with significant CWA experience to this meeting, but EPA contacted the State just a few days before the meeting, asking that the state's attorney not attend. Second, those State employees in attendance were essentially asked to react to EPA's proposed approach for the Assessment, but were not asked for input on whether or how EPA should proceed. They participated in break out groups to respond to draft conceptual risk diagrams that EPA had brought already prepared to the meeting. Third, some of the suggestions State employees offered in response to EPA presentations were rejected such as separating construction from operational impacts in separate risk diagrams and considering options to tailings impoundment such as dry stack disposal. Thus, EPA's actions in limiting those who could attend and constraining the topics for discussion on an assessment approach show that EPA had already clearly and substantially laid a framework (including modeling) and significantly limited State involvement from the outset.

In addition to EPA staff, other federal agencies in attendance were the National Park Service, U.S. Fish and Wildlife, National Oceanic and Atmospheric Administration and the Bureau of Land Management. Contractors for the EPA and tribal representatives from Curyung Tribal Council, Ekwok Village Council, Iliamna Village Council, Koliganek Village Council, Levelock Village Council, Newhalen Tribal Council, Nondalton Tribal Council and South Naknek Village Council also attended. However, no staff members from the Corps (the lead federal agency charged with regulating and permitting dredge and fill activities), attended this meeting. Nowhere in the Assessment is the Corps identified as a participant in the IGTT nor does the State have information that the Corps is one of the federal agencies assisting EPA in the development of the Assessment.

On September 9, 2011, EPA contacted ADNR Water Section to invite a state hydrologist or geomorphologist to attend a session in Anchorage on September 28 -29 to discuss fisheries, wetland hydrology, and a watershed model for Oregon developed by EPA's Corvallis lab. ADNR and ADEC did evaluate the model (which had not yet been peer reviewed through submission to a journal), and determined it was not applicable to the undeveloped Nushagak and Kvichak watersheds. The State subsequently was told that the invitation was for the watershed modeling session only, not the entire meeting. At that point, the State became very concerned about the way EPA was limiting State participation in a process that has expanded far beyond EPA's statutory and regulatory authority.

One additional webinar meeting of the IGTT was held on January 13, 2012. The purpose of this meeting was to update the IGTT on the progress of the Assessment, including the revised conceptual models based on the input from the August meeting. This was the last request from EPA for any technical participation by the state agencies, except for minimal contact by EPA with some agencies to access publicly available, existing data.

Unfortunately, this pattern of limited consultation with the State on matters of enormous importance to the State of Alaska has been a defining characteristic of the current federal administration. As we have argued repeatedly with federal government officials regarding



responsible resource development and other regulatory matters in the State of Alaska, the State is not just another stakeholder in the process—we are the other sovereign entity, with rights and responsibilities defined by the U.S. and Alaska constitutions. We are also the entity with the most expertise and scientific knowledge on responsible resource development and environmental protection in the State of Alaska. As is the case with the EPA's Assessment, when the State's input is limited or ignored, it leads to a legally and scientifically flawed process and result that we believe are not in the best interest of the State of Alaska and its citizens.

While the State agencies had limited involvement with the IGTT, with the exception of some University of Alaska researchers, the Assessment makes ample use of State-generated data particularly from ADF&G. EPA states, at page 2-2 of the revised Assessment:

In this assessment we prioritized peer-reviewed, publically accessible sources of information to ensure that the data we incorporated were of sufficient quality. In many cases, however, peer-reviewed data – particularly those directly relevant to potential mining in Bristol Bay region – were not available. Thus we also incorporated non-peer reviewed data from government sources, most notably the State of Alaska (e.g. Alaska Department of Fish and Game [ADF&G], Alaska Department of Natural Resources [ADNR]).

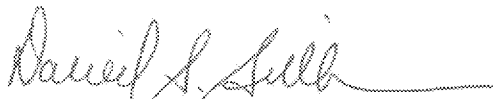
It is important to note that ADF&G collects a variety of non-peer reviewed biological data to characterize fish resources and to manage the State's fisheries, including those in the Bristol Bay watersheds. For utilized fish stocks, these data are often compiled over many years to inventory and estimate populations, set harvest limits, and establish salmon escapement goals. These data may be used for real-time fisheries management decisions or to forecast annual run size. This type of raw data is useful and distinct from information in a peer-reviewed journal article that may use such data and test scientific hypotheses. The population assessment data collected by ADF&G that has not been subject to peer review should not in any way connote that the data is not of high quality nor impugn the collection techniques. While the use of some State-generated non-peer reviewed data may be appropriate to characterize certain resources within the Assessment, it is inaccurate to suggest that the State had an opportunity to explain the data and participate in the IGTT when our opportunities were clearly limited, and it is inappropriate for the revised Assessment to utilize and draw conclusions using this State-generated data without affording the State agencies the full opportunity to participate in the IGTT.

The State points out that non-peer reviewed data and reports came from many state and federal agencies (e.g., U.S. Geological Survey, U.S. Fish and Wildlife) and from organizations both in and outside of the U.S. (e.g., Climate data from East Anglia University, U.K., the PRISM climate group from Oregon State University, the Commonwealth of Australia, and the British Geological Survey). Reports from non-governmental organizations (NGOs) were also included as sources despite the considerable potential for bias and publicly stated opposition to mining in Bristol Bay (see document referenced in Footnote 24 of this letter).


*Conclusion*

Once again, the State asks that EPA cease its work on the Assessment, and refrain from taking any 404(c) action until a Section 404 permit application has been submitted and other applicable state and federal regulatory reviews are conducted. We hope that you will give careful consideration to the important issues and concerns raised in these comments.

Sincerely,



Daniel S. Sullivan  
Commissioner  
Alaska Department of Natural Resources



Michael C. Geraghty  
Attorney General  
Alaska Department of Law

Enclosures    (1) Letter from Gov. Parnell to Hon. Lisa Jackson, September 21, 2010  
                  (2) Letter DNR/OPMP Crafford to Rick Parkin, EPA August 8, 2011  
                  (3) Letter Alaska AG to EPA McLerran, March 9, 2012  
                  (4) Letter Alaska AG to EPA McLerran, April 17, 2012  
                  (5) Letter Alaska AG to Jackson and McLerran, May 29, 2012  
                  (6) Alaska AG comments to EPA Docket, July 23, 2012  
                  (7) DNR/OPMP comments to EPA Docket July 23, 2012  
                  (8) SOA technical comments to EPA Docket July 23, 2012

cc:            (With Enclosures and Via Email & First Class Mail)

Comm. Larry Hartig, AK Dept. of Environmental Conservation, [larry.hartig@alaska.gov](mailto:larry.hartig@alaska.gov)  
Comm. Cora Campbell, AK Dept. of Fish & Game, [cora.campbell@alaska.gov](mailto:cora.campbell@alaska.gov)  
Comm. Susan Bell, AK Dept. of Commerce, Community & Economic Development  
[susan.bell@alaska.gov](mailto:susan.bell@alaska.gov)  
Director Tom Crafford, Office of Project Management and Permitting, AK Dept. of  
Natural Resources [tom.crafford@alaska.gov](mailto:tom.crafford@alaska.gov)  
Senator Lisa Murkowski, [Kristen Daimler@murkowski.senate.gov](mailto:Kristen.Daimler@murkowski.senate.gov)  
Senator Mark Begich, [Michael Johnson@begich.senate.gov](mailto:Michael.Johnson@begich.senate.gov)  
Congressman Don Young, [Pamela.Day@mail.house.gov](mailto:Pamela.Day@mail.house.gov)